WHAT IS CLAIMED IS:

1. A semiconductor device comprising:
a single-crystal silicon substrate; and
a single-crystal oxide thin film having a perovskite structure formed through epitaxial growth on the single-crystal silicon substrate, said single-crystal oxide thin film being directly in contact with a surface of the single-crystal silicon substrate, and containing a bivalent metal that is reactive to silicon.

2. The semiconductor device as claimed in claim 1, wherein the bivalent metal is any bivalent metal but Sr.

3. The semiconductor device as claimed in claim 1, wherein the single-crystal oxide thin film is selected from the group consisting of $PbTiO_3$, $PbZrO_3$, $Pb(Zr, Ti)O_3$, $(Pb, La)(Zr, Ti)O_3$, $BaTiO_3$, and $(Ba, Sr)TiO_3$.

4. A semiconductor device comprising:
a single-crystal silicon substrate;
a single-crystal oxide thin film having a

perovskite structure formed through epitaxial growth on the single-crystal silicon substrate; and

an amorphous silicon layer interposed between the single-crystal silicon substrate and the single-crystal oxide thin film.

5. A semiconductor device comprising:

a single-crystal silicon substrate;

a first single-crystal oxide thin film having a sodium chloride structure formed through epitaxial growth on the single-crystal silicon substrate; and

a second single-crystal oxide thin film having a perovskite structure formed through epitaxial growth on the first single-crystal oxide thin film,

said first single-crystal oxide thin film being selected from the group consisting of CaO, SrO, and BaO.

6. The semiconductor device as claimed in claim 4, wherein the single-crystal oxide thin film contains a bivalent metal selected from the group consisting of Sr, Ba, Pb, and La.

7. The semiconductor device as claimed in claim 4, wherein the single-crystal oxide thin film is selected from the group consisting of $PbTiO_3$,

$PbZrO_3$, $Pb(Zr, Ti)O_3$, $(Pb, La)(Zr, Ti)O_3$, $BaTiO_3$, $(Ba, Sr)TiO_3$, and $SrTiO_3$.

8. A semiconductor device comprising:

a single-crystal silicon substrate;

a first single-crystal oxide thin film having a sodium chloride structure formed through epitaxial growth on the single-crystal silicon substrate;

a second single-crystal oxide thin film having a perovskite structure formed through epitaxial growth on the first single-crystal oxide thin film; and

an amorphous layer formed between the single-crystal silicon substrate and the first single-crystal oxide thin film.

9. The semiconductor device as claimed in claim 8, wherein the first single-crystal oxide thin film is selected from the group consisting of MgO, CaO, SrO, and BaO.

10. The semiconductor device as claimed in claim 8, wherein the second single-crystal oxide thin film is selected from the group consisting of $PbTiO_3$, $PbZrO_3$, $Pb(Zr, Ti)O_3$, $(Pb, La)(Zr, Ti)O_3$, $BaTiO_3$, $(Ba, Sr)TiO_3$, and $SrTiO_3$.

11. A method of forming an epitaxial film, comprising the steps of:

forming a plume by irradiating a target containing a bivalent metal carbonate with a laser beam;

developing a bivalent metal oxide film from the bivalent metal carbonate through epitaxial growth on a single-crystal silicon substrate set in a passage of the plume; and

heating a surface of the target with an independent heat source different from the laser beam, thereby producing a single-crystal oxide epitaxial film.

12. The method as claimed in claim 11, wherein the step of heating the surface of the target is performed at the same time as the irradiation with the laser beam.

13. The method as claimed in claim 11, further comprising the step of heating the plume.

14. The method as claimed in claim 11, wherein the step of heating the surface of the target is performed prior to the irradiation with the laser beam.

15. The method as claimed in claim 11, wherein the step of heating the surface of the target is performed at such a temperature that the carbonate decomposes on the surface of the target.

16. The method as claimed in claim 11, further comprising the step of forming an oxide film having a perovskite structure through epitaxial growth on the single-crystal oxide epitaxial film by irradiating another target with a laser beam.

17. A laser ablation device comprising:

a processing chamber that is exhausted by an exhausting system;

a processed substrate that is held within the processing chamber;

a target that is provided in the processing chamber and faces the processed substrate;

an optical window that is provided in the processing chamber and corresponds to an optical path of the laser beam irradiating the target; and

a heat source that is provided in the processing chamber and covers a space between the processed substrate and the target.